

Aerial Detection Survey Update

Background: Annual aerial detection surveys for tree mortality and injury have been conducted annually since 1994. This is an update of survey status for the 2014 season.

Objective: Detect and map tree mortality and damage in California / USFS Region 5.

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Methodology: Recently dead and damaged trees (still retaining dead foliage) were mapped visually by surveyors using digital aerial sketch-mapping systems, flying in a light fixed-wing aircraft approximately 1,500 feet above ground level. Surveyors record the number and species of affected trees and type of damage (mortality, defoliation, etc.) at each mapped location.

Details:

- Almost 5.6 million acres were surveyed, covering much of the Klamath, Shasta-Trinity and Six Rivers National Forests, and the Whiskeytown National Recreation Area. See Figure 1. Due to multiple lightning fires, the entire area was not surveyed.
- Mortality and damage to true fir was mapped extensively in the area. Nearly 90,000 acres were mapped with mortality of red and white fir from fir engraver, or with flagging due to cytospora canker. This is a sizeable increase from last year. Figure 2.
- Almost 27,000 acre with ponderosa pine mortality were mapped, also an increase from last year. Figure 3.
- Mountain pine beetle activity appeared reduced from last year, as much less lodgepole mortality was observed. Some whitebark pine mortality was also seen. Figure 4.
- Drought-stressed blue oak were prominent in the foothills near Red Bluff.
- Mortality of Douglas-fir, from flat-headed fir engraver in drier areas, and from bear damage closer to the coast, was mapped again this year. Very little mortality was attributed to Douglas-fir beetle, in comparison to last year. Figures 5 and 6.
- Knobcone mortality was the main type of damage mapped on the Whiskeytown National Recreation Area.

Figure 1. Flown area and mapped tree mortality and damage

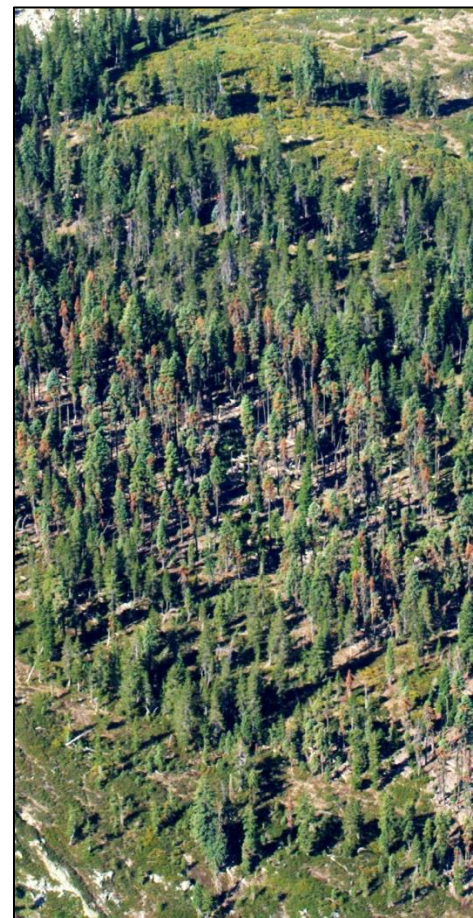
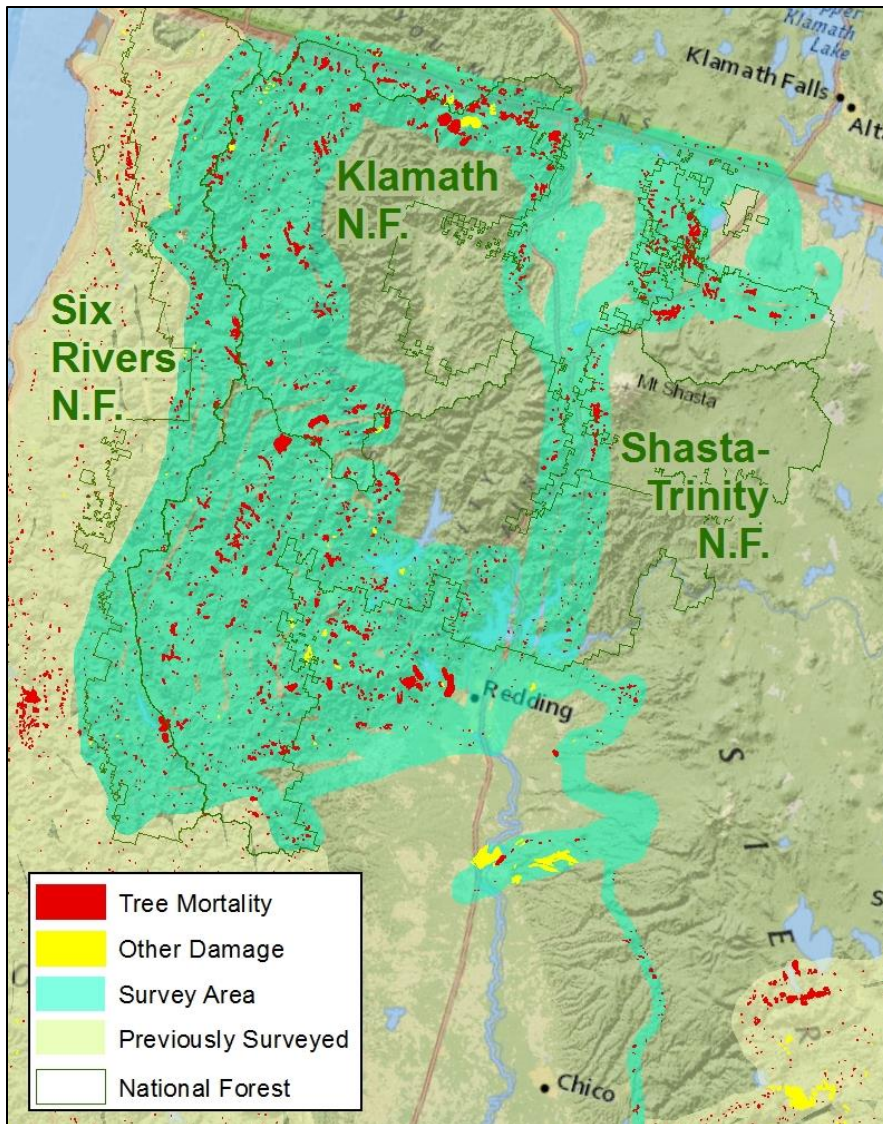


Figure 2. Red fir with damage from Cytospora canker on the Klamath National Forest



Figure 3. Pine mortality in a plantation near the Klamath N.F.



Figure 5. Bear damage to Douglas-fir in a plantation on the Six Rivers N.F.



Figure 4. Whitebark pine mortality, mostly older, from mountain pine beetle, Ball Mountain, Goosenest Ranger District, Klamath National Forest.



Figure 6. Pocket of old Douglas-fir beetle-caused mortality south of Hayfork, Shasta-Trinity National Forest.

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